REMARKS

This is a full and timely response to the Advisory Action mailed by the U.S. Patent and Trademark Office on February 20, 2007 and the final Office Action mailed November 30, 2006. Applicants submit this response along with a Request for Continued Examination (RCE). Claims 1-15 are pending in the present application. Claims 1, 6 and 10 are amended. Support for the amendment to claims 1, 6 and 10 can be found in the specification, at least in paragraphs 0008, 0022 and 0026. In view of the foregoing amendments and following remarks, reconsideration and allowance of the present application and claims are respectfully requested.

Rejections Under 35 U.S.C. § 101

Claims 10-15 stand rejected under 35 U.S.C. § 101, because they allegedly manipulate an abstract idea (mathematical algorithm) without a claimed limitation to a practical application. The Office Action states that:

> [t]he disclosed invention has a practical application in the technological arts (e.g. touch determination on a touch display and cursor manipulation); however, the claimed method, a series of steps to be performed on a computer, simply manipulates an abstract idea without a claimed limitation to the practical application, where practical application may be shown by a) physical transformation OR b) useful, concrete or tangible result. The disclosed invention of the instant application pertains to a method of sampling an array, resampling an array and comparing the first and second samples, which is a manipulation of an abstract idea without any limitation to a practical application.

Applicants respectfully submit that claim 10 includes at least "comparing the first and second samples to determine navigational movement." Therefore, claim 10 indeed states a useful, concrete and tangible result, namely, "to determine navigational movement."

However, to advance prosecution, Applicants have amended claim 10 to recite "A method for finger navigation of a cursor," and "comparing the first and second samples to determine planar movement of the finger to generate directional input reflected in navigational movement of the cursor."

Accordingly, Applicants respectfully submit that claims 10-15 are in compliance with 35 U.S.C. § 101, and respectfully request that the rejection be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 5-8 and 10-15

Claims 1-3, 5-8 and 10-15 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over European Patent No. 0 929 028 to Kramer (hereafter *Kramer*) in view of European Patent No. EP 1 396 812 to Miyasaka et al. (hereafter (*Miyasaka*). For a claim to be properly rejected under 35 U.S.C. § 103, "[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted). Further, "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed Cir. 1992).

The Office Action states:

> With reference to claims 1, 6 and 10, Kramer teaches a device comprising a mobile embedded device having a cursor manipulator (19) including, a sensing surface (21) operative to sense contact by the human finger (23), that contact corresponding to applied pressure, a pressure sensor array (27) disposed on the sensing surface, wherein a measurement of the plurality of pressure sensors corresponds to an image (see paragraphs 17-21); and an image detector, receiving images from the pressure sensor array, generating cursor manipulation corresponding to changes between the images (see paragraph 24). Kramer teaches a method for finger navigation comprising sampling (scanning) a portion, wherein the portion is a subset and the subset is a periodic selection of pressure sensors, of the array (subset being the cells which are covered by the user's finger) of an array of pressure sensors to generate a first sample (see paragraph 22); re-sampling the portion of the array to generate a second sample (see paragraph 23); and comparing the first and second samples to determine navigational movement (see paragraphs 24-25).
>
> Kramer does not teach wherein the sampling resolution of the sensing surface is based on at least one of periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones or are evenly or unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint.

> Miyasaka et al disclose wherein the sampling resolution of the sensing surface is based on at least one of periodically sampling alternating pixels in an array (paragraph 0073) and monitoring at least one of a plurality of zones in an array (Figs. 2a & 2b), wherein the plurality of zones are evenly or unevenly distributed throughout the array (Figs. 2a & 2b, paragraphs 0079-0082, 0092-0095), and where the plurality of zones populate the array with varying density (Figs. 2a & 2b), and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint (0088-0092).
>
> It would have been obvious to one of ordinary skill in the art to include the features of sampling resolution and plurality of zones as taught by Miyasaka et al into the display system of Kramer as the features of Miyasaka enable a reduction in the amount of information to be compared and thereby reducing the load of comparison processing (Miyasaka et al in paragraph 0080).

Kramer discloses a method and system for providing user input to a computer, or the like, having a display by detecting a change in fingerprint pattern of a user. *See Kramer*, Abstract. According to *Kramer*, the "device 19 includes a horizontal scanning stage 31 and a vertical scanning stage 33. Scanning stages 31 and 33 enable one cell 29 at the time according to a predetermined scanning pattern. In the preferred embodiment, each cell 29 is scanned once each millisecond to produce a frame rate of 1,000 frames per second." *See Kramer*, paragraph 0022. *Kramer* continues stating "[a]n A/D converter 37 is connected to receive the output of each cell 29 of array 27." *See Kramer*, paragraph 0024. From this it is clear that *Kramer* requires that ***every*** cell 29 in the array 27 be scanned for each frame.

Miyasaka discloses a fingerprint image capture device that captures first and second fingerprint images, and compares the first and second images to determine cursor movement. *See Miyasaka*, Abstract.

In marked contrast to the proposed combination, Applicants' independent claim 1 includes at least "an image detector, receiving images from the pressure sensor array, generating cursor manipulation corresponding to changes between the images, ***wherein a sampling resolution of the sensing surface is based on at least one of periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones are evenly and unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data, and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint.***" Applicants respectfully submit that at least this feature is neither disclosed, taught nor suggested by the

proposed combination.

Applicants' independent claim 6 includes at least "a sensing surface operative to sense contact by human finger, the contact corresponding to applied pressure, the sensing surface having a sampling resolution ***based on at least one of periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones are evenly and unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data***." Applicants respectfully submit that at least this feature is neither disclosed, taught nor suggested by the proposed combination.

Applicants' independent claim 10 includes at least "sampling a portion of an array of pressure sensors to generate a first sample ***based on at least one of periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones are evenly and unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data***." Applicants respectfully submit that at least this step is neither disclosed, taught nor suggested by the proposed combination.

Applicants respectfully disagree with the statement in the Office Action that:

> Miyasaka et al disclose wherein the sampling resolution of the sensing surface is based on at least one of periodically sampling alternating pixels in an array (paragraph 0073) and monitoring at least one of a plurality of zones in an array (Figs. 2a & 2b), wherein the plurality of zones are evenly or unevenly distributed throughout the array (Figs. 2a & 2b, paragraphs 0079-0082, 0092-0095), and where the plurality of zones populate the array with varying density (Figs. 2a & 2b), and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint (0088-0092).

Applicants respectfully submit that nowhere does *Miyasaka* disclose, teach or suggest, in paragraph 0073 or elsewhere, periodically sampling alternating pixels in an array, as stated in the Office Action. Indeed, in paragraph 0073, *Miyasaka* merely discloses capturing a fingerprint image at least twice and nowhere mentions periodically sampling alternating pixels in an array.

Further, Applicants respectfully submit that nowhere does *Miyasaka* disclose, teach or suggest, in paragraphs 0079-0082 and 0092-0095 or elsewhere, zones evenly or unevenly

distributed throughout the array. Indeed, in paragraphs 0079-0082, *Miyasaka* merely discloses ridge bifurcations and ridge endings of a fingerprint and the comparison of the distribution of ridge bifurcations and ridge endings, and not zones that are evenly and unevenly distributed throughout an array. None of Figures 2A or 2B show an image sensor, much less an image sensor having zones that are evenly and unevenly distributed throughout an array. In paragraphs 0092-0095, *Miyasaka* merely discloses a method for fingerprint verification.

Further still, Applicants respectfully submit that nowhere does *Miyasaka* disclose, teach or suggest, in paragraphs 0088-0092 or elsewhere, that the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint. Indeed, in paragraphs 0088-0092, *Miyasaka* merely discloses ridge bifurcations and ridge endings of a fingerprint and the comparison of the distribution of ridge bifurcations and ridge endings, and not that the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data and wherein the sampling resolution is user selectable based on a size of a feature of a fingerprint.

No Motivation to Combine *Kramer* with *Miyasaka*

Applicants respectfully submit that there is no motivation to combine *Kramer* with *Miyasaka* to arrive at the present invention. Applicants respectfully submit that there is nothing in *Kramer* and *Miyasaka* that would motivate one having ordinary skill in the art to combine these references to arrive at Applicants' claimed invention because neither *Kramer* nor *Miyasaka* disclose, teach or suggest at least periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones are evenly and unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data.

Further, the proposed combination fails to provide either a reasonable expectation of success of combining the references to achieve the invention, or show any relevance to the problem solved by Applicants' invention. Further, the Office Action fails to articulate a clear motivation to make the proposed combination.

Specifically, Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness because the Office Action has not pointed out the specific teachings in *Kramer* and *Miyasaka* that would motivate one having ordinary skill in the art to combine the references to arrive at Applicants' invention. Indeed, neither *Kramer* nor *Miyasaka* disclose, teach or suggest periodically sampling alternating pixels in an array and monitoring at least one of a plurality of zones in an array, wherein the plurality of zones are evenly and unevenly distributed throughout the array, and where the plurality of zones populate the array with varying density, the plurality of zones collectively providing navigation data.

Further, Applicants respectfully disagree with the conclusory statement in the Office Action that:

> [i]t would have been obvious to one of ordinary skill in the art to include the features of sampling resolution and plurality of zones as taught by Miyasaka et al into the display system of Kramer as the features of Miyasaka enable a reduction in the amount of information to be compared and thereby reducing the load of comparison processing (Miyasaka et al in paragraph 0080).

Applicants respectfully submit that one having ordinary skill in the art would not be led toward the claimed structure and method because neither *Kramer* nor *Miyasaka* suggests the structure and method recited in claims 1, 6 or 10.

Accordingly, Applicants respectfully submit that independent claims 1, 6 and 10 are allowable over the proposed combination. Further, Applicants respectfully submit that dependent claims 2, 3 and 5, which depend directly from allowable claim 1; dependent claims 7 and 8 which depend directly from allowable claim 6; and dependent claims 11-15, which depend either directly or indirectly from allowable claim 10, are allowable for at least the reason that they depend from allowable independent claims. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

Rejections Under 35 U.S.C. § 103

Claims 4 and 9

Claims 4 and 9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Kramer* in view of *Miyasaka* and further in view of U.S. Patent No. 5,841,078 to Miller *et al.* (hereafter *Miller*).

Applicant respectfully submits that dependent claim 4, which depends directly from allowable claim 1; and dependent claim 9, which depends directly from allowable claim 6 are allowable for at least the reason that they depend directly from allowable independent claims. *In re Fine, supra.*

CONCLUSION

Should the Examiner have any comments regarding the Applicants' response or believe that a teleconference would expedite prosecution of the pending claims, Applicants request that the Examiner telephone Applicants' undersigned attorney.

Respectfully submitted,

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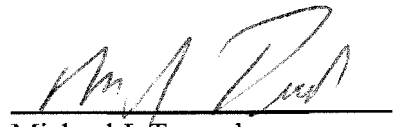
By: 

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